

ABSTRACT

[0055] A plasma radiation source is improved in such a way that the lifetime of the optics which is limited by the influence of debris is appreciably increased. A gas curtain through which the radiation proceeding from a source region in a vacuum chamber is emitted at a defined solid angle for debris suppression along an axis of the mean propagation direction of the radiation exits as a radially directed supersonic gas jet from a propulsion nozzle of a gas jet vacuum pump, which propulsion nozzle is arranged on the axis. The gas curtain is directed to an annular mixing nozzle that is arranged coaxial to the axis and is guided out of the vacuum chamber by a diffuser. This makes it possible to use source arrangements having an optimal conversion efficiency but extensive debris.